





ENTERED

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/754,853A

DATE: 03/13/2002 P.6

TIME: 09:32:15

Input Set : F:\00330v2.txt

Output Set: N:\CRF3\03132002\1754853A.raw

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1 <110> APPLICANT: Hauge, Brian M.
         Parnell, Laurence D.
 3
         Parsons, Jeremy D.
        Wang, Ming Li
 6 <120> TITLE OF INVENTION: Nucleic Acid Molecules And Other Molecules Associated With
         Soybean Cyst Nematode Resistance
9 <130> FILE REFERENCE: 38-10(15810)B
11 <140> CURRENT APPLICATION NUMBER: US/09/754,853A
13 <141> CURRENT FILING DATE: 2001-01-05
15 <150> PRIOR APPLICATION NUMBER: US 60/174,880
16 <151> PRIOR FILING DATE: 2000-01-07
18 <160> NUMBER OF SEQ ID NOS: 1119
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 127197
22 <212> TYPE: DNA
23 <213> ORGANISM: Glycine max
25 <220> FEATURE:
26 <223> OTHER INFORMATION: Clone ID: 515002_region_G2
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32 cctttttccc tgttgacttg gccttcttta agaccttgtt tggttccaca taaccagtta
                                                                         120
34 ctgttacttt ctgctgcttc ctgtttatct ccaccgattc tactcctaca cttacaccac
                                                                         180
36 cattttttag ttaatttcat caccttcata cgtgttgaat gctatataat taatatatca
                                                                         240
38 cactattaat titcaccaaa agaaaaatat tacactatta attgataaca tactctctaa
                                                                         300
40 cacttttgtt ttaacatatt atttattatt aattaaaatt tattgaaaac cataaattat
                                                                         360
42 aaattataag tgaaaccgta aaataaagag tcatatcaaa cattttttgt gattttcaac
                                                                         420
44 aaattttaac ataaaagatg gttgtgctag cttttttat ataattatt ataattataa
                                                                         480
46 tatggcacac tacccatgga agctgatttt gagaataaaa ttgagggaaa acgtag¢act
                                                                         540
48 taccatctaa tgaagagaga gttttcctaa ccttgagcac acagccgtca câátccátca
                                                                         600
50 teacetteag etecaeggte tgtaattget tettgttett gttettgttg ttgtgttggt
                                                                         660
52 ggttgccatt cccacttccc attaaatcag accagtaatc tccaaccccc atttttgtgt
                                                                         720
54 atttaatatc aaaaccaata tgaaagcaag ctgggaagtt cttgatgagt agagaaaatt
                                                                         780
56 agtaggtatt agatgggttg aacatcattg atggtgtggg agcgtaggag aagaatttat
                                                                         840
58 atagagaaaa aqcaaggtcc aaaaccacaa gaagttacaa ggaactttct tgcaaaacag
                                                                         900
60 aaaaatattc ctcactcact taccttctaa tgatctaaaa accaatgctg ctctttgaag
                                                                         960
62 aactttttt tagttacctt gggatatttt taccacatct aactaaaatt gattttggta
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64 gaagtaaaaa ttaatcttat ttgttttaat tttatcataa ttttaaaaaat aatttaaacg
                                                                        1080
66 tacaaaattt agttaaaatc aagattaatt cacatcagca tagtctacca gaattttgaa
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68 agttattcac acaattatat ataggetttt teaceattea gatteaatga tatgaatgga
                                                                        1200
70 aaggtatagt qgtccctaac tacgccagtg aataaagaac cttagaacgg attataactt
                                                                        1260
72 cttaacggaq aaaattttta cgtggggttc aagaaagtag ataagaagga acgcattcct
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74 gtatcacctt tttcattcgc aaatatatat gtaaatagta aaaatttatg gtactgcttg
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76 cggttcagtt gacacttgac aaagttattt atttgatatg taaaaagaaa tggacatatc

1440

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Input Set : F:\00330v2.txt

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80 gtgaaagact		_	-		_	1560
82 aatgtggaac	-				-	1620
84 accattgaca	_	-		-		1680
86 gataaaattt	cagtcaactt	aaggccaatc	aaactcacaa	atatatgtca .	agtttgtact	1740
88 ttgcaaaaag	ataataagga	aattatctat	caaactaaaa	taaaattcac	aaaatcatca	1800
90 ttccttagcc	agactcatga	tccaaactca	tatttttaat	taaatttcag	tcttctaaca	1860
92 ttaaggagtt						1920
94 gcgataccct	ttggactcgt	tgtgacaata	ttcataacac	tttctcctaa 🧸	aatctttcga	1980
96 cctttcacta	taaatacttg	ttaatgttat	ctaaaagtat	gaagcattat	tttgtaagca	2040
98 aattcttta	gcttagtcac	gaagaagtta	ttggaagtgt	cataattaat	ttcatcatgc	2100
100 atggttcaa	g aattccatta	gacaaagaaa	attgtctcag	tagttatcat	cgataacaca	2160
102 agctactag	a ccaattgacc	aaagaagttt	cgtcttttaa	attcttttcc	catcttgttt	2220
104 gaatatgag	a tatttgattc	tcattgatac	tttttcgata	agataaaggt	gacattttgg	2280
106 cttctgttt	-	_	_			2340
108 taactaacc	c actaaataat	cttttttca	attagcaaaa	ctgctgaaag	ctcagtccca	2400
110 cttttggaa						2460
112 agtgtgggt						2520
114 gtgcttaag						2580
116 atattaata				_		2640
118 gttaaattt			_			2700
120 attaactca						2760
122 gcgtataaa						2820
124 gccttgttt						2880
126 tcaaagctc	- ,					2940
128 ctgattagt						3000
130 gagcaaaaa						3060
132 acagacgtg						3120
134 gaaacttgc		_	_			3180
136 gtttaaact						3240
138 ttcttgcta						3300
140 taatttgga						3360
142 atgtattgt						3420
144 agggaactc						3480
146 caccagata						3540
148 attcccatt	_	-		_		3600
150 actatatag		-	_			3660
150 actatatag						3720
154 tagtagtcc						3780
	-	•		-		3840
156 tggcttaca						3900
158 tgacgacaa						3960
160 tctttaaag						4020
162 ggtattaaa						4020
164 gttaatgag						
166 gcagaaaca						4140
168 attttctca						4200
170 tttgatttg						4260
172 ctaaaaatt						4320
174 tacatcatc	c gatacaatta	ctaaactaaa	ctaagggaag	aattattctc	acttttatat	4380

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Input Set : F:\00330v2.txt

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176	ttgttattta	aactatcaat	tctgaaattt	ctattttgcc	cactaaccaa	attcctccac	4440
178	ccctctctt	ttcccttccc	tccttctcat	atccaaaacc	gttgccccta	caccaaccta	4500
180	gactgcatca	ccctccctc	agcgccaccc	ttctccccac	acaaaacgtc	gtcaatccac	4560
182	gaccacgcca	tccctccctc	cgcaacccat	tgtcaatcca	catgcatgcc	atcctcccc	4620
184	tccatgcaat	tcgttgatcc	acacagcacc	ttgccccatc	aagatcaagc	acccttgttt	4680
186	ctcttttttg	gattttattg	caggttttgt	tgttgttgaa	tcgtatttct	gttgcatcat	4740
188	tttttacacg	ctactgtctg	taatggaaat	agaatgaaat	cgtatttctt	ttgcttttt	4800
190	ttctttaccc	catgtgtgca	acgaaaatag	aattttgtta	gagacttatt	taacggagtc	4860
192	atattttcgt	gggaaggaca	agctaaaaaa	aaaatatttg	aaactaagag	ggattgtgcc	4920
194	aatagcaata	ttggtattgc	tagttcccct	gaactacata	aaaccttcct	cgtattgaaa	4980
196	tatgcttaat	taaaactttc	atacctgaaa	tatgggtgtc	ttcaaattat	tagctaatat	5040
198	ttatttttt	taatcaagta	gttgaaaaaa	aaattcagtt	tcattttatt	atttatttat	5100
200	ttttcatcaa	gtggtaatat	gacatacgga	gtgttgcctc	aacctgtctt	gttatggata	5160
202	actcatactc	atgttatcat	cttcgatgat	tgtgacaata	acatgttggt	aaattgaaac	5220
204	ataaaaaaat	tttagataac	tatttgacaa	aaaatgaatt	tttaggtagt	aatttgaaaa	5280
206	taatttattt	tccaggtatg	aaaaacttaa	ttaaatcaat	ctgaaaaata	attttttagc	5340
208	taacaaatga	taaggagaaa	ttttataaaa	ataaataatt	taatttcaaa	taaaatgata	5400
210	aattttatta	tttcattaaa	aataaaaata	aaaatggtaa	tcataaattt	aagttatgtt	5460
			caataagaaa				5520
214	aaatatttgt	aagtttgtgt	aaaaaactaa	aaattaatta	aaataacctg	atgagcatat	5580
216	atgtaattta	cttttatata	gacttaaaaa	actttatctt	tttttaagat	aatttctcat	5640
			aattaatgag				5700
	-		aacacttatc		_	_	5760
222	ttaataaaat	aatattaaag	attaaattaa	aaagttgagt	tacatacatt	gaaccaacaa	5820
224	gatcaaacac	tgagatatat	attttggatc	cagagaataa	taaaggaaga	gtgaaggaag	5880
	-		tgaaccaaca	_			5940
			acctgaaaaa				6000
			ctagaaaaaa				6060
			tcatatgtca				6120
			taacattttg				6180
			aaaattgaat				6240
			aaatgatctg	_			6300
	-		agtcattgtg	-			6360
	_	_	gctagaaaca	-			6420
			ttcatgattt				6480
			gcaattacga				6540
			cactttgaca		_		6600
		_	ggttagctaa				6660
		, ,	tttaagtttt	_		_	6720
			atgtactaga				6780
			agtcaacacg				6840
			attagttgac				6900
			ttaatttaca				6960
			ttaggaatct				7020
			aaaatactta				7080
			aactctatct				7140
			agggcagaca				7200
			gaaatcatcc				7260
2/2	ctcttccagc	aacagctgga	gcaactgcat	gcccgttcgt	tetttgttge	tcatctgtag	7320

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Input Set : F:\00330v2.txt

Output Set: N:\CRF3\03132002\1754853A.raw

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				gcatcaagca			7500
				cctaagtaga			7560
	_		-	tgactcacaa			7620
				gtatcctgtc			7680
286	aatttattag	ttttaagatc	aaagtatctt	ttaataccat	attccagagt	atgggtaatc	7740
288	agtagacttt	gataaggaaa	atatttaact	tacgtccgat	tgttcccata	tctccttcag	7800
290	ttggctgtat	ggctaaacaa	aatccaatga	ctccctgcac	aggaaggacc	gatctaacta	7860
				aatgaagtct			7920
294	atgtcaaaat	tttagtccag	gatcacttaa	ttcacaccca	cctcattgcc	atagaataca	7980
296	aatacggggt	catagaccac	aaaactgtta	ttctgttgga	acgtgagagt	taagctggga	8040
				aaaagaataa			8100
				tcatgcacca			8160
302	agagatctat	ccagaaaact	cacctgggaa	cataacaata	ctcccaagga	gatccttcaa	8220
304	agctagatct	tgaaccattt	acttgttgat	caaactatca	caaataaaat	catattaaaa	8280
306	gactgagcag	aaatttacat	taatggaatt	tagaaaacta	aagtacctcc	tcagctattg	8340
308	ctccatacac	atgaccagga	agaaaagtaa	atgatgtccc	gctatcaacc	tgcactttaa	8400
				cacaacatga			8460
312	ttgaactgac	caggaaattt	atcataatta	gcactgtgac	accattttct	aaagtatatt	8520
314	ttagtgcagt	gaaacattgt	aaactaattt	aaagtacaga	atttcatact	ataatccatc	8580
316	caaaggcaag	aatgaagtag	actgttggat	ggttggtccc	tggtccccaa	aaaatattct	8640
				aaaagaatcg			8700
	_			ccccaaacct			8760
				accacacctg			8820
				taaaaaaaga			8880
			-	ccacacccaa			8940
		-		agatgcagta			9000
				accatgtatg			9060
				tgactgcaag			9120
				ctatcctgca			9180
				taagtgctaa			9240
				catgttttgt			9300
				caattcgcat			9360
				ttttattatt			9420
				aacattttag			9480
				gaaacttcaa			9540
				aaaaatatgt			9600
	_	_	_	aaacaactag	-		9660
	_			acacctcgtt		=	9720
				tagattaggt			9780
				tgtacgcaat			9840
				gaagtgctcg			9900
				ttatcagatt			9960
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	-			catccggtag			10140
				tttcatttcg			10200
				tgcgcgagcc			10260
570	Jogggoggaa	adogegacog	Janooyyout	2505094500	Juliuoudda	Junioududy	

RAW SEQUENCE LISTING DATE: 03/13/2002 PATENT APPLICATION: US/09/754,853A TIME: 09:32:15

Input Set : F:\00330v2.txt

Output Set: N:\CRF3\03132002\I754853A.raw

372	cagcaaccgc	caccgcatcg	agatcgagat	ctggcacttg	cacttattct	gatgcctcgt	10320
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376	catcatcgcc	atggatcgta	tcgtttcgtc	cctgtgtggc	tgtgtgtgag	tgagagtgag	10440
378	agtgagagtg	agggtggata	aaacaaacaa	acaaaactag	cgcattttgt	tgcgggtgga	10500
380	attagactgt	tactaagtgc	ttaattaatg	gggaaaggaa	agtggtatga	ttagtgtttg	10560
382	taacagtaag	tgattattgt	aaatgatgat	taggaggaat	aagggtgcaa	cactgcagcg	10620
384	acgaagcgaa	acgtcacgcg	cggtggcccc	accatgtctt	tacgtgcttg	agaatgaaac	10680
386	ggccttttat	tgccgatgtc	gatttgtctt	tgccactgtg	ggccccccca	catttattat	10740
388	tattcctttc	cttttacgaa	ataaaaaata	aaaaatcaaa	caaacaaggc	aaaaggtttc	10800
390	ttaagtattt	agtttcatta	tataaataaa	ataaatgcct	agatctagta	aataatcaca	10860
392	ttatgtggtg	tgggtcagga	ataaagcttc	acacacgaaa	aaagaaatct	tgcaagtaaa	10920
.394	cagctgaaca	cattaattgt	ttttaaagaa	atctaaagtt	attgaagaaa	acaactgaga	10980
396	catgataatt	tgactaatta	atacttttag	tgaaggagac	gtattttaaa	agataaagta	11040
398	taattataat	aataattaat	aaaataaata	acgattaata	tttagtaatt	tcattctatg	11100
400	taatattagt	atgatctcaa	ctcaactgat	aattttcaag	ataatagtta	taattgcact	11160
402	ctgtggaatc	ttaagttctt	tctccaaaga	aaaaaaaaa	cattttttct	tccccttgtc	11220
404	gtgttctctt	attctgccat	ctccaattct	gttcacaatc	gtaggttgtg	ccgccaatga	11280
406	tgtttaatga	taaagatcaa	atacgtttgc	aatgaatcgg	gatgacaaga	ctgagacaac	11340
			tgcacaagtg				11400
			ggtaagttta				11460
		_	ccaaacaaaa			_	11520
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			aaattttta				11640
	-		aaaaaattaa		_		11700
		_	caagtaacca			_	11760
			aaagcagata	_	_		11820
	_	-	aataaactta				11880
			tgataatgtc				11940
	_		agatcaaaat				12000
			atatgccaaa	_		-	12060
			agtcctaact				12120
			cattatttaa			-	12180
	-		aatatcaatt		_		12240
	-	_	tacctagttc		-	_	12300
			tattagtttt				12360
			aactacaaaa			_	12420
			atagacataa				12480
			gctttcattt				12540
			tttaaataca				12600
			ctaaattggt				12660
			tggtatgaag	-	_		12720
			tattcaacaa				12780
	-		tcaacaccat	-			12840
			agaaaagcag				12900
		-	ttgagttgca		_		12960
			ttaggcattt acccagaaaa				13020
			_	_	_		13080
			gtttctaatc cagcctcaac				13140 13200
400	cayaayaycy	aycacacacy	caycolcado	atactcataa	cyallyaaay	CLLYLLCada	13200

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/09/754,853A

DATE: 03/13/2002 TIME: 09:32:16

Input Set : F:\00330v2.txt

Output Set: N:\CRF3\03132002\I754853A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

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Seq#:4; N Pos. 261038,261039,261040,261041,261042,261043,261044,261045
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Seq#:4; N Pos. 261070,261071
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Seq#:4; N Pos. 305362,305363,305364,305365,305366,305367,305368,305369
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Seq#:4; N Pos. 316372,316373,316374,316375,316376,316377,316378,316379
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VERIFICATION SUMMARY
PATENT APPLICATION: US/09/754,853A

DATE: 03/13/2002 TIME: 09:32:16

Input Set : F:\00330v2.txt

Output Set: N:\CRF3\03132002\I754853A.raw

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L:5862 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 2
L:6024 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 2
L:17363 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 3
L:35816 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:260974 L:35818 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:261034
L:37294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:305314
L:37296 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:305374
L:37658 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:316234
L:37660 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:316294
L:37662 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:316354
L:37664 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:316414 L:37670 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:316594
L:44622 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 8
L:44784 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 8
L:45079 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 9
L:45384 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 10
L:45681 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 11
L:45985 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 12
L:46280 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 13
L:46425 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 14
L:46587 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 14
L:46882 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 15
L:47027 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 16
L:47189 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 16
L:47484 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 17
L:47789 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 18
L:48088 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 19
L:48390 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 20
L:48689 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 21
L:48991 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 22
L:49290 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 23
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